



ILLINOIS DRAFTING EDUCATORS ASSOCIATION

INTERMEDIATE DRAFTING TEST CAD — 3D MODELING

IDEA REGIONAL 2008

DO NOT OPEN BOOKLET UNTIL INSTRUCTED TO DO SO

Getting started:

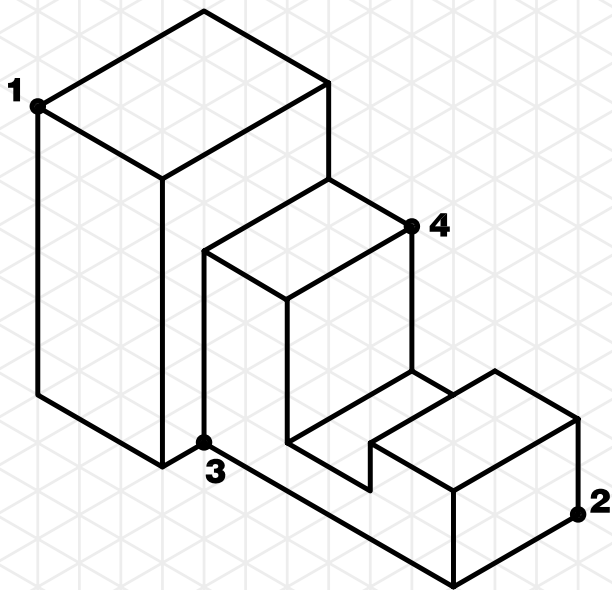
Instructions:

Please read the following instructions carefully.....

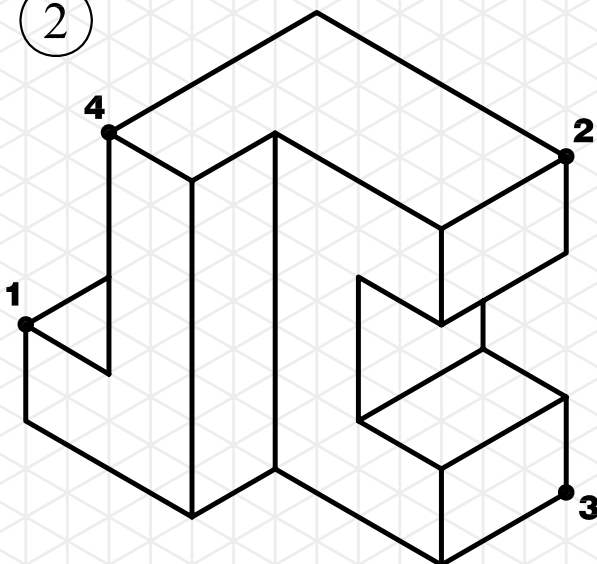
To evaluate your answers, the answer sheet must be filled out properly. We do not expect anyone to finish all twenty models, but there are answer blanks for all twenty. There are twenty models with three answer blanks for each one. For each model, in order, fill in the blank for: (a) volume; (b) 3D distance from point 1 to point 2; and (c) 3D distance from point 3 to point 4.

1. On the following pages you are given several pictorial drawings OR multiview drawings of abstract blocks. The measurements are in INCHES, .250" [$\frac{1}{4}$ "] for each grid block. Perform as many of these as you can, IN ORDER. Leave your model in the CAD environment as proof you have modeled it, but either move each one "off to the side" after completing, OR save the model as a separate part and begin a new one. Some programs may not be efficient if all models are in one "file."
2. Place your contestant number in the title block of the answer sheet. DO NOT PLACE YOUR NAME OR SCHOOL NAME ON THAT SHEET.
3. NOTE: The judge's answer key uses a CAD solution that was created with inches and fractional input, so dimensional values are NOT rounded off. [i.e. $\frac{1}{8}$ " = .125", not .12"] It is recommended that you use fractional number input, or decimals that have NOT been rounded off, as there might be a difference otherwise.
4. Fill in the answer sheet with answers provided by your CAD system as a THREE-place decimal value.
5. In summary, construct models of as many of the 20 objects as you can. You will be checking the volume and two distances for each object before moving on to the next one.
6. REPORT ANSWERS FOR EACH MODEL AS YOU FINISH IT, AND DO NOT DELETE THAT MODEL. DO NOT GUESS AT ANSWERS FOR MODELS THAT YOU HAVE NOT CREATED. THE JUDGES WILL EXAMINE YOUR CAD SCREEN TO VERIFY A MODEL EXISTS FOR EACH ITEM NUMBER TO WHICH YOU RESPONDED.
7. You may save the models to a personal memory device if you have one, but that is not required. GOOD LUCK!

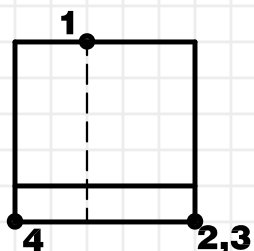
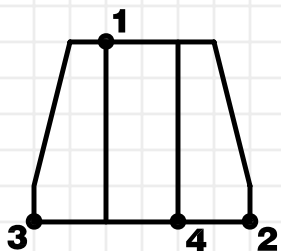
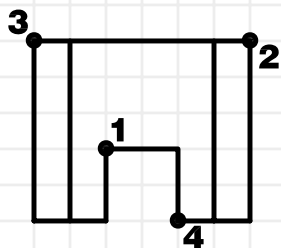
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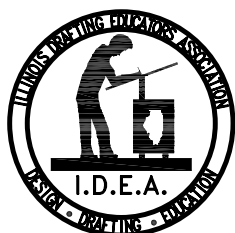
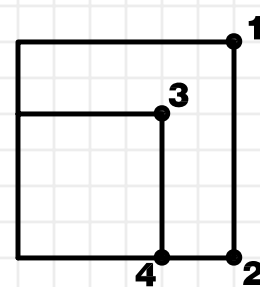
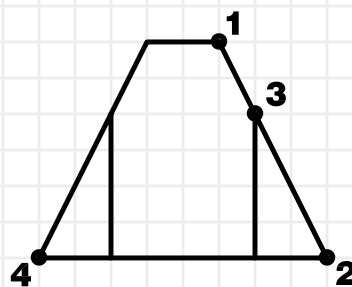
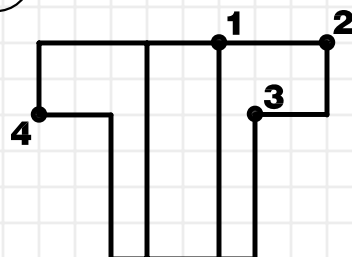
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4



3D MODELING PARTS 1—4

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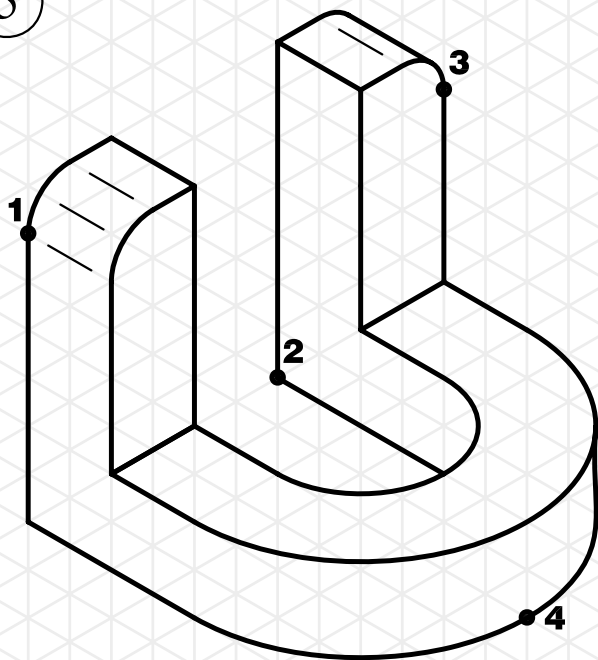
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REGISTRATION

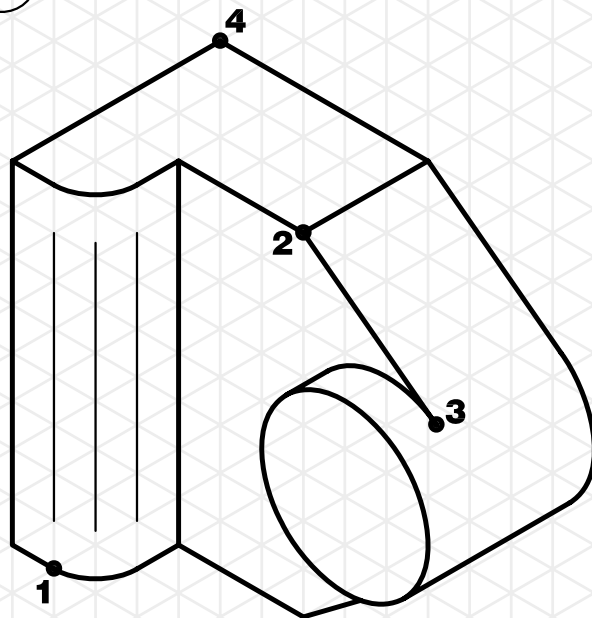
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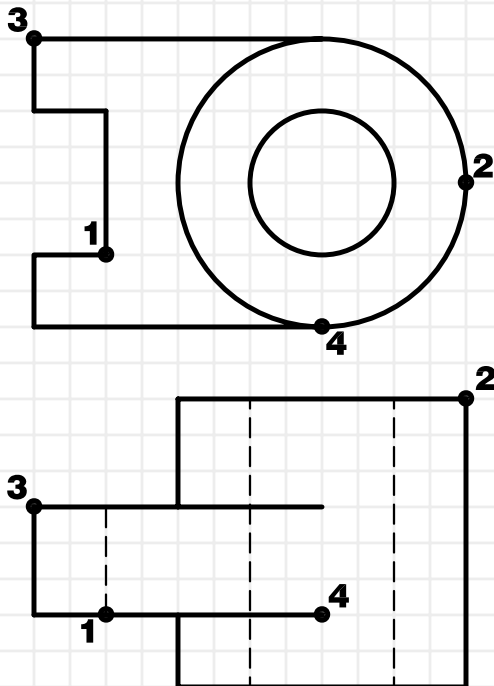
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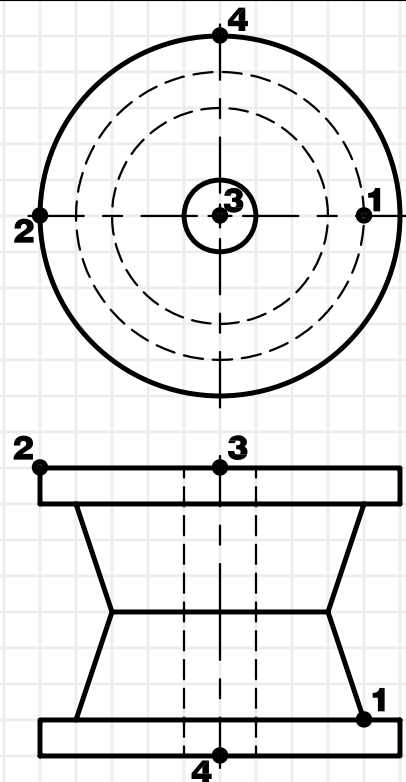
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8



CENTER LINES OMITTED



3D MODELING PARTS 5—8

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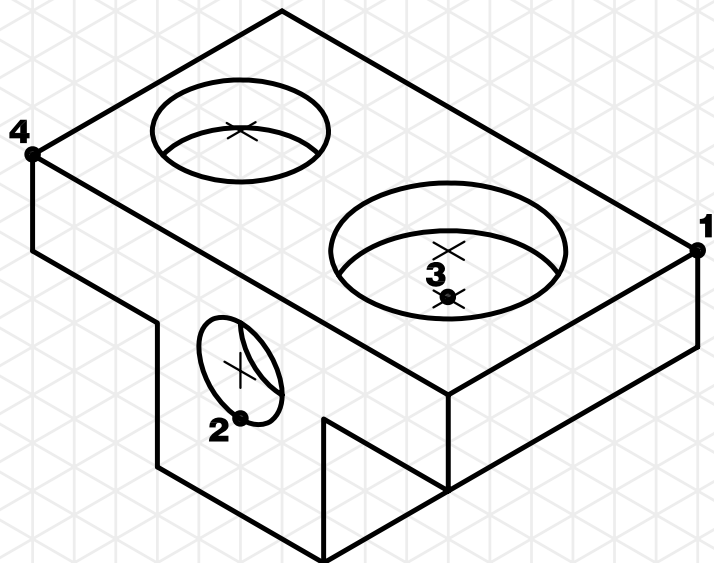
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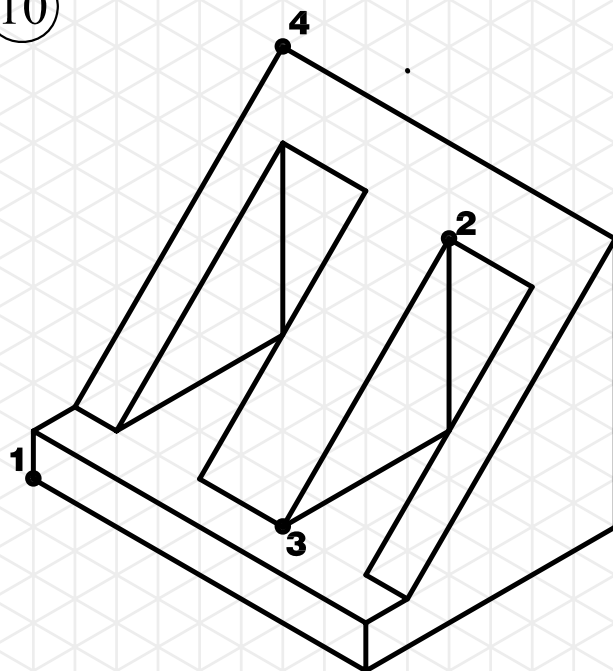
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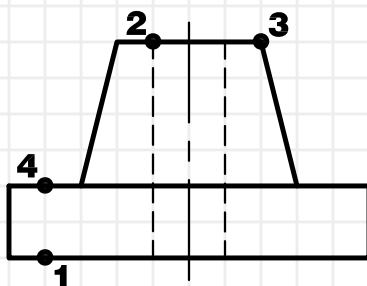
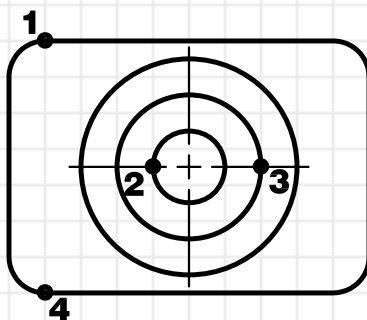


3 HOLES — EACH 1/4" DEEP

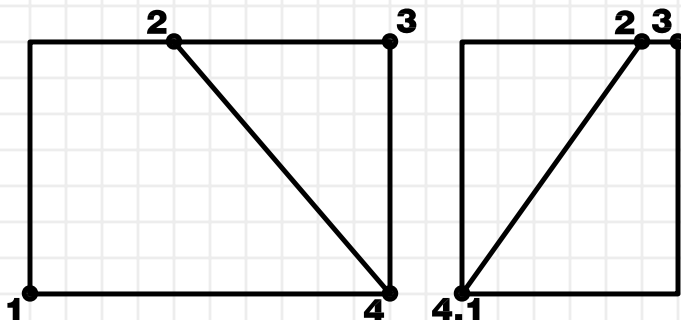
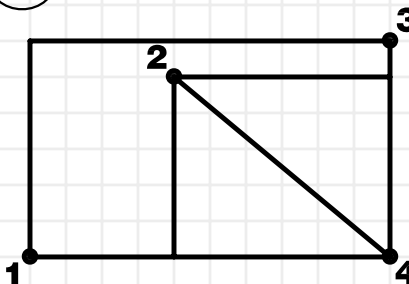
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3D MODELING PARTS 9—12

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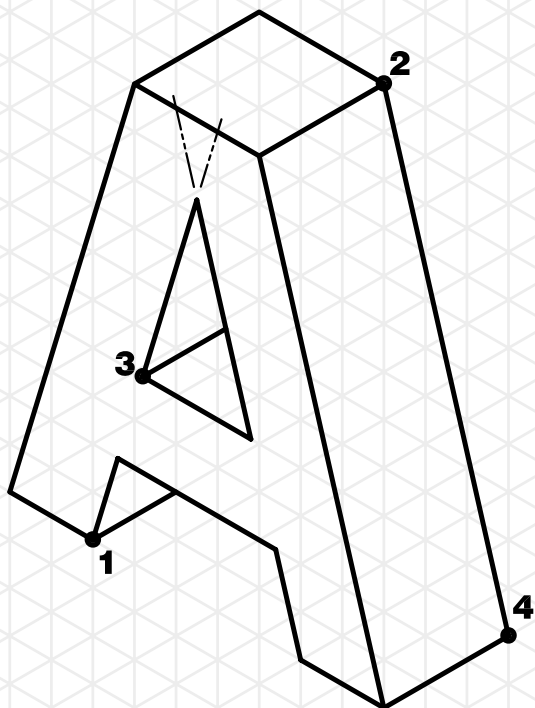
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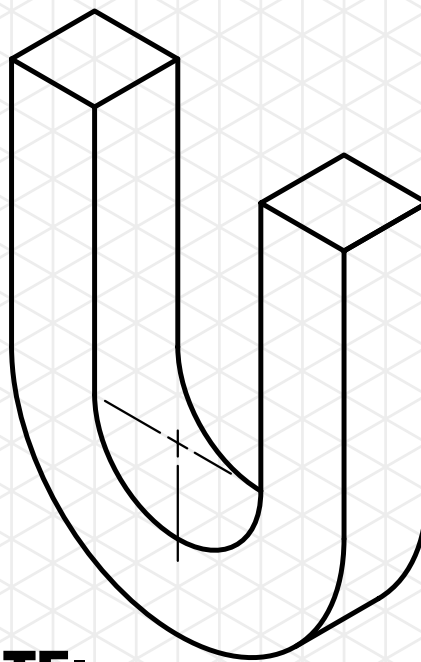
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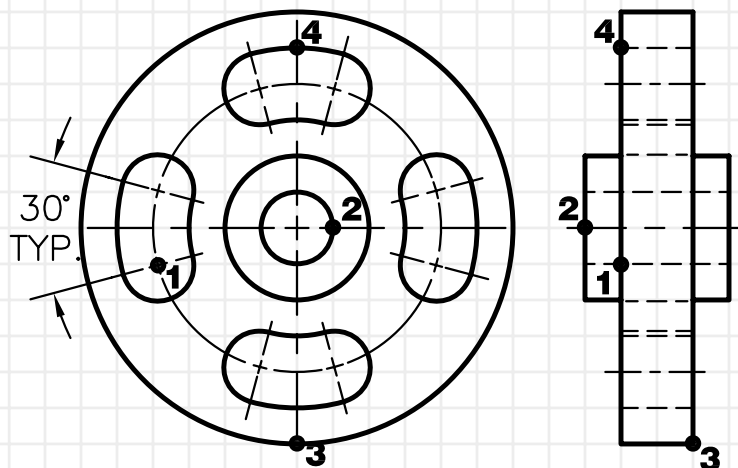
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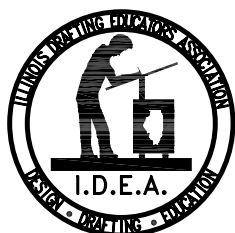
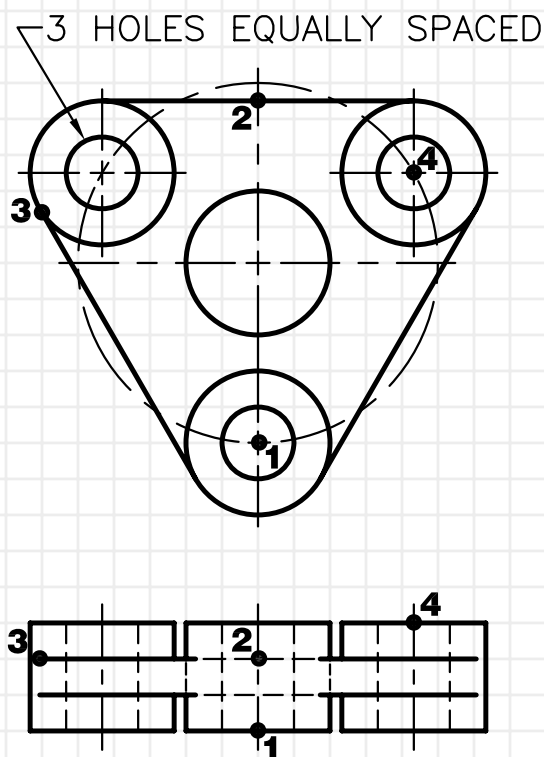
NOTE:

ALL EDGES ROUNDED R.125
NO DISTANCE CHECKING ON THIS ONE

15



16



3D MODELING PARTS 13-16

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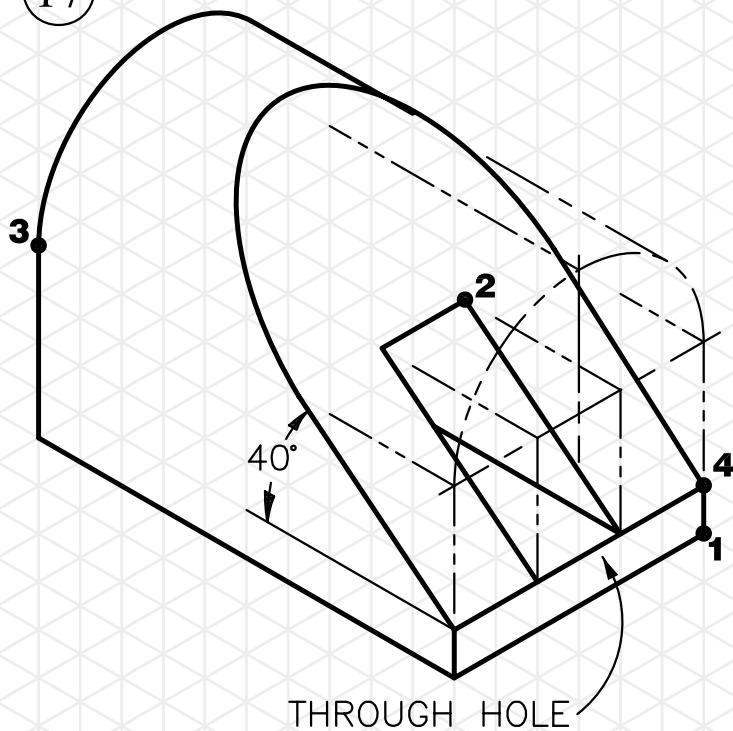
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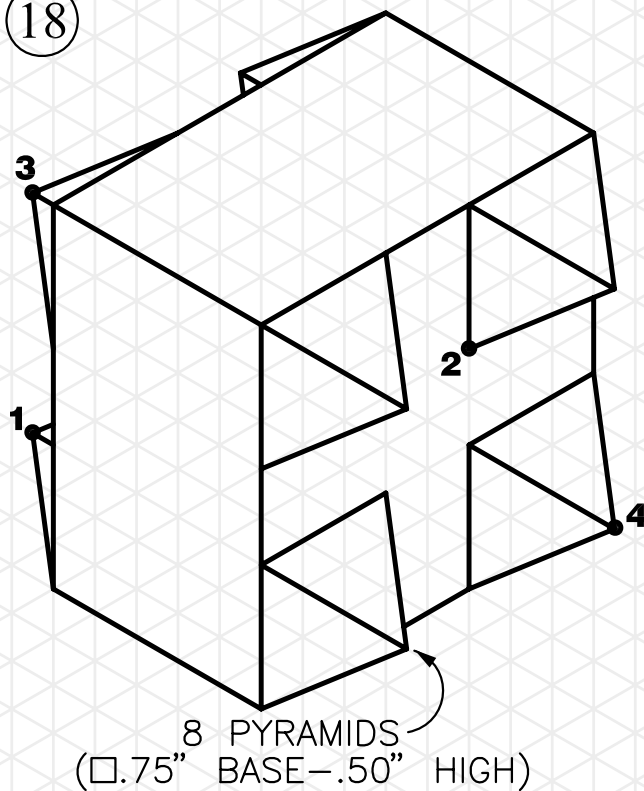
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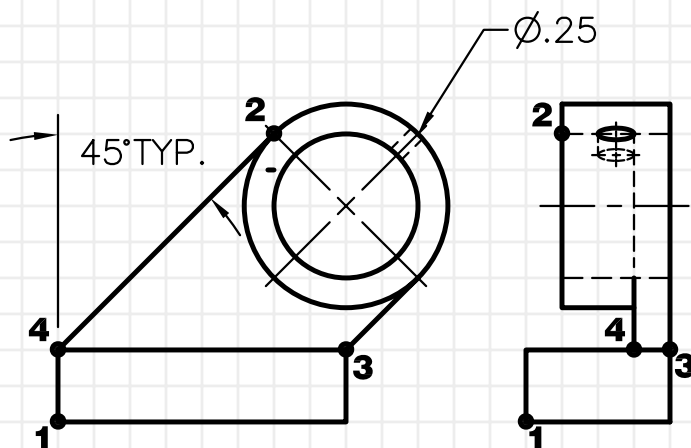
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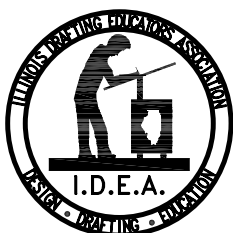
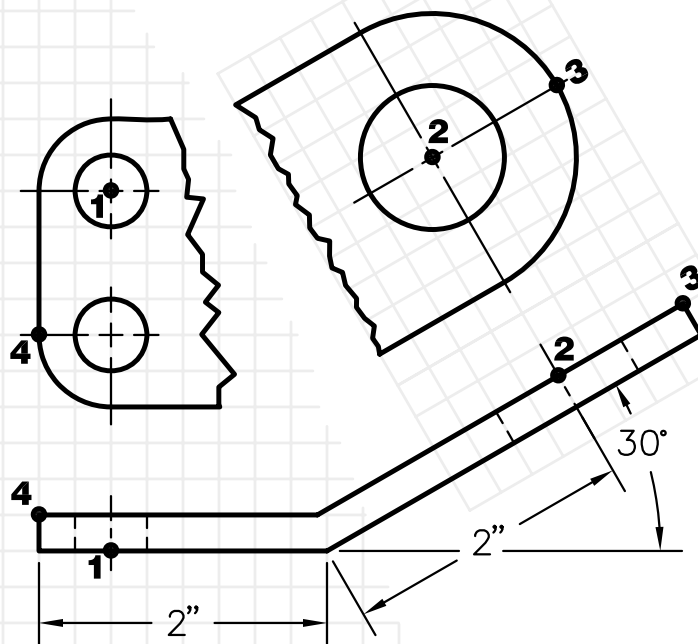
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20



3D MODELING PARTS 17-20

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NEATLY AND LEGIBLY FILL IN THE BLANKS FOR AS MANY OF THE 20 MODELS AS YOU CAN, BUT ONLY IN ORDER, AS YOU FINISH EACH MODEL. YOU MAY NOT USE A CALCULATOR, ONLY THE CAD SYSTEM SET TO 3-DECIMAL PLACE PRECISION. FIRST ITEM = VOLUME; SECOND ITEM = 3D DISTANCE BETWEEN POINTS 1 AND 2; THIRD ITEM = 3D DISTANCE BETWEEN POINTS 3 AND 4.

① _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4	⑪ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4
② _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4	⑫ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4
③ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4	⑬ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4
④ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4	⑭ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4
⑤ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4	⑮ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4
⑥ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4	⑯ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4
⑦ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4	⑰ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4
⑧ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4	⑱ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4
⑨ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4	⑲ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4
⑩ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4	⑳ _____ VOLUME _____ DISTANCE FROM POINT 1 TO POINT 2 _____ DISTANCE FROM POINT 3 TO POINT 4



3D MODELING CAD ANSWER SHEET

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SCALE: NONE

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